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AUTHOR Hitzhusen, Fred J.
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ABSTRACT

Exclusion of some forms of tax revenue and all forms of nontax revenue and support from measures of tax effort for allocating federal revenue sharing funds appears to introduce systematic bias against rural/nonmetropolitan local governments. Omitted tax revenues include those for schools and special districts (rural communitites raise proportionally more of their total taxes for these), while excluded nontax revenues include user charges, special assessments, donations, and various fund-raising activities for community services (fire protection, emergency ambulance). In addition, support in forms of volunteer effort and services like water supply, sewage treatment, and solid waste collection (generally privately provided or contracted for in rural communities) is eliminated. Nonmetropolitan communities disproportionately substitute user charges for general revenue financing, support a higher proportion of local government or community services with donations and fund-raising activities, substitute volunteer for paid effort more, and provide more community services privately than publicly. Estimates of impact on allocations to rural areas in Ohio when various excluded revenues are included bear out the apparent bias. If federal revenue sharing is to be equitable, either adjustments in measure of tax effort are needed or tax effort should be dropped as a criterion. (RS)

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The Department of Agricultural Economics and Rural Sociology
The Ohio State University
Columbus, Ohio 43210

Federal Revenue Sharing and Nonmetropolitan Governments: "The Cumberland Gap"

By

Fred J. Hitzhusen*

Abstract

Some forms of tax revenue (schools and special districts) and all forms of non-tax revenue (e.g., user charges and donations) and support (e.g., volunteer effort) are omitted from tax effort measures for Federal revenue sharing allocations. These omissions appear to introduce a systematic bias against nonmetropolitan governments.

*Associate Professor, Resource Economics, Department of Agricultural Economics and Rural Sociology, The Ohio State University, Columbus, Ohio.

Federal Revenue Sharing and Nonmetropolitan Governments: "The Cumberland Gap" 1/

Introduction

Recently Congress renewed the Federal revenue sharing program with the enactment of the State and Local Fiscal Assistance Amendments of 1976. The new revenue sharing program has been extended through September 30, 1980. The original State and Local Fiscal Assistance Act became law on October 20, 1972 and provided $30.2 billion to state and local governments over a five-year period. The amended Act provides $25.5 billion over a 3-3/4 year period. The complicated formula utilizing population, urbanized population, per capita income and tax effort to determine each eligible governments entitlement bias not changed. Tax effort remains the dominant factor [3].

Federal revenue sharing is one of at least four ways of transferring or redistributing Federal revenues to State and local governments. 2/ Proponents of revenue sharing have generally referred to "fiscal mismatch" between the Federal and State-local governments. The contention has been that the ability to generate revenues is disportionately under the control of the Federal government while expenditure "needs" have become increasingly urgent at state-local levels. The suggested solution to this problem has been "the regular distribution of a specified portion of the Federal income tax to the states on the basis of population with few strings attached" [2].

Despite the "few strings attached" language, most intergovernmental transfers such as Federal revenue sharing involve some measure(s) of relative capacity or effort on the part of the lower level recipient

governments.[3] For example, financial or tax effort is generally defined as the sum of public revenues obtained from a government's own sources expressed per $1000 of personal income [9]. The controversy arises over what is counted as revenue in the numerator of this fiscal effort ratio. Historically, to maintain "clearer" distinctions between public and private activity, most tax revenues have been included and all forms of non-tax revenue and support excluded from measures of financial or fiscal effort.

This analysis outlines the allocation formulas utilized for Federal revenue sharing, and identifies several potential sources of allocation bias against nonmetropolitan and/or rural governments.[4] Preliminary estimates of the magnitude of alternative sources of Federal revenue sharing bias are made utilizing aggregate secondary data for metropolitan and nonmetropolitan governments. These data are then supplemented with primary data for a more detailed analysis of Cumberland County, Tennessee. Recommendations are made regarding revision of the current measure of tax effort.

Allocation Formulas

Under the original and recently renewed State and Local Assistance Act, Federal funds are allocated in the following manner: First, the funds are allocated among the States according to either a three or five-factor formula, with each state allowed to pick the most advantageous formula. Under the three-factor formula, a State's share depends on its population, relative income per capita, and relative tax effort. The five-factor formula adds the State's urban population and relative State income tax collections. One-third of each State's allocation is then retained by

the State with two-thirds passing through to local governments by county area (6, 14).

The next step is to divide each county geographic area allocation into three possible parts. An Indian tribe allocation is determined based on their proportion of the county population. A township and county government allocation is then determined on the basis of the ratio of all township and county government adjusted taxes (excluding taxes for education, special districts, and user charges) to the total adjusted taxes in the county area. The remaining proportion is allocated to the city and village units of governments.

County, township, city and village local government units receive their respective allocations on the basis of the same formula used to determine the county geographic area allocation, i.e., population x tax effort x relative income. The same upper (above 145 percent) and lower (below 20 percent) adjustments provided for county geographic areas are also applied to the county, townships, and municipal units of government within each county geographic area. One exception is that any local unit of government receiving less than 20 percent of the average per capita local share for the State may have the allocation increased to the lower of either the 20 percent level or 50 percent of its adjusted taxes and intergovernmental transfers. Finally, if any allocation is less than $200, or any unit of local government waives its entitlement, that amount is allocated to the county government.

Sources of Allocation Bias

Two previous studies have examined the distribution of various types of Federal grants, services and expenditures among U.S. urban and rural counties prior to the current Federal revenue sharing program [13, 17].[5/] Another analysis compared rural and urban areas regarding their utilization of user charges, donations, special events and volunteer effort [7].[6/]

Several previous analyses have been concerned with various sources of bias in the allocation of Federal Revenue Sharing funds [11, 1, 6, 8]. Nathan and Associates concluded that the 145 percent "ceiling" unfairly penalizes larger cities that otherwise would receive larger amounts because they have sizable populations of low income residents. They also criticized the requirement that a local government cannot receive less than 20 percent of the average per capita payments to other governments in its State because it tends to "share up" small townships whose main responsibility is maintaining local roads [11]. Others have suggested that the use of money income in the allocation formulas may favor rural areas to the extent that it disproportionately understates real income in rural areas.

Counter arguments can be made via the urban population weighting in the five-factor formula and the fact that many communities receive less than the 20 percent "floor" due to the 50 percent clause. The latter refers to 50 percent of a local government's adjusted taxes and intergovernmental transfers and if this amount is less than that determined by the 20 percent rule, the lower amount becomes the actual allocation.[7/]

Much more significant sources of bias than the foregoing appear to exist as the result of the inclusion and measurement of tax effort (particularly the tax element) in Federal Revenue Sharing and this is the primary remaining focus.

Bradford and Oates state that some measure of tax effort is included in Federal Revenue Sharing primarily to provide a stimulas to the output of public services [2]. Heller and other proponents have argued that decentralized levels of government compete to attract both new residents and business and are reluctant to raise tax rates for fear of discouraging potential entrants. The outcome is purported to be less than efficient levels of provision of public services in these jurisdictions [5]. Some have challenged the validity of this argument and others have suggested eliminating tax effort as a criterion,[8/] but tax effort continues to be an important component of the formulas for allocating Federal Revenue Sharing funds.

General tax effort at the local level is defined as the ratio of adjusted taxes to aggregate income of county, township, or municipal governments. Adjusted taxes are all those general purpose taxes enacted or collected by the unit of government during its fiscal year. Taxes enacted for schools or other educational purposes and special districts as well as receipts from user charges, special assessments, interest earnings, or fines are excluded. Aggregate income for any local government unit means total money income as defined by the Bureau of the Census in the 1970 Census of Population and Housing [9].

Higher tax effort is intended to result in larger revenue sharing allocations. However, tax effort at the local level excludes taxes for education and special districts and user charges for services such as water supply, sewage, and waste disposal. It also excludes the services of volunteers such as firemen and hospital workers. To the extent that rural and/or nonmetropolitan communities raise disproportionate taxes for schools and special districts, and/or disproportionately substitute user charges for general revenue financing and volunteer for paid effort, their "tax effort" and thus their revenue sharing payment is decreased relative to urban or metropolitan communities.

Limited empirical work has been completed on alternative measures of tax effort (particularly the adjusted taxes element) as they relate to Federal Revenue Sharing allocations. A major analysis of adjusted taxes was conducted by the U.S. Comptroller General's Office in 1975, but no comparisons were made between rural and urban or metropolitan and non-metropolitan communities [1]. Hitzhusen attempted some estimates of the importance of user charge omissions based on preliminary 1974 data for Ohio [6]. Lederer and Badenhop evaluated three alternative ways of including a value for volunteer firemen's effort as part of tax effort for Cumberland County, Tennessee. The resulting increase in Federal Revenue Sharing entitlement to Cumberland County ranged from 11 to 27 percent. This represents an allocation that changed from $19.76 to $25.13 on a per capita basis [8].

Allocations for Ohio

Table 1 summarizes the 1972-76 Federal Revenue Sharing allocation to

Ohio local governments by type of local government. It shows that per capita allocations to cities are approximately double the per capita allocations to villages and triple the per capita allocations to townships and counties. The same local government allocation formulas apply in all states, thus the allocation findings for Ohio should be reasonably representative of other states.

TABLE 1. FEDERAL REVENUE SHARING PAYMENTS TO OHIO LOCAL GOVERNMENTS, 1972-76

Unit of Government	Population 1973 a/	FRS Payments 1972 thru June 1976 Total ($ mil)	FRS Payments 1972 thru June 1976 Per Capita ($)	FRS Payments Fiscal Year 1976 Total ($ mil)	FRS Payments Fiscal Year 1976 Per Capita ($)
County	10,743,371	171.6	15.97	55.6	5.18
Township	3,251,954	52.6	16.17	16.6	5.10
City	6,613,398	298.4	45.12	94.6	14.31
Village	878,019	19.6	22.32	6.3	7.18
Totals	X	542.2	X	173.1	X

SOURCES: [12, 19].

a/ Based on estimates for 1973. The sum of individual county population estimates is equal to the state population estimates. Township population is defined as the difference between individual county population and the sum of the city and village population estimates within each county. In Ohio, cities are municipalities over 5,000 population and villages municipalities under 5,000 population.

Assessing the precise formula sources of these differences is dependent on a detailed data base and substantial computation. However, it is clear that county, township, and smaller municipal governments in Ohio have not

fared as well as larger municipalities in Federal Revenue Sharing allocations. The empirical challenge is to determine the significance of omitting various forms of tax and non-tax revenue as well as other forms of support from the measure of tax effort for Federal Revenue Sharing.

Preliminary Empirical Estimates of Bias

Some preliminary estimates are possible and may be illustrative of the potential significance of alternative sources of bias. Census of Government data for 1971-72 on charges and miscellaneous, and water supply revenues in relation to own tax revenue sources provides a starting point. These data are presented in Table 2 for U.S. county area local governments over 25,000 and under 25,000 population. When the sum of charges and miscellaneous and water supply revenues is added to the measure of tax revenues from own sources, it represents an increase of 37.4 percent in this measure for the above 25,000 and a 49.4 percent increase for the below 25,000 county area local governments.

The measure of taxes in Table 2 includes taxes for schools and special district activities which are excluded from the "adjusted taxes" measure for Federal revenue sharing. However, it was not possible to net out school and special district taxes. The school and special district tax omissions from adjusted taxes appear to introduce further bias against nonmetropolitan areas. For example, data for Ohio show that local taxes collected for schools in 1969 represented 46.1 percent of total local taxes in SMSA counties and 54.9 percent in non-SMSA counties [15]. Nonmetropolitan areas in the U.S. had 22 percent of the population and generated 27 percent of the special district revenues in 1970 [20].

TABLE 2. LOCAL GOVERNMENT TAX AND NON-TAX REVENUE

Type of Support	County Area Local Govts. Over 25,000 (n = 1246) $ mil.	County Area Local Govts. under 25,000 (n = 1872) $ mil.
Revenue from Own Sources	60,805	4,743
Taxes [a/]	(46,448)	(3,291)
Charges and Misc. [b/]	(14,357)	(1,452)
Water supply revenue [c/]	2,996	176
Total	63,801	4,919

SOURCE: [18]

a/ Consists of compulsory contributions enacted by governments for public purposes including taxes from property, sales, gross receipts and income as well as motor vehicle licenses. It excludes special assessments and employer and employee payments for retirement and social insurance purposes.

b/ Comprises all non-tax revenue of governments from their own sources including current charges, special assessments, sale of property, interest earnings and other and unallocable revenues. Current charges are reported on a gross basis, without offset for the cost of producing or buying the commodities or services sold.

c/ Gross revenues from water supply revenues operated by local governments. Not considered part of "revenue from own sources" by U.S. Census of Government.

Comparable aggregate estimates of "tax equivalent" values for various types of volunteer effort are not possible. However, the work by Lederer and Badenhop on the value of volunteer firemen in Cumberland County, Tennessee is a start [8]. Table 3 combines their three estimates of voluntary effort tax equivalents (VETE) with secondary data from the U.S. Census of Government and compares the latter to data for all county area local governments in 1971-72.

TABLE 3. LOCAL TAX, NON-TAX REVENUE, AND TAX EQUIVALENT SUPPORT

Type of Support	Cumberland County, Tennessee $ (000)	All County Area Local Govts. (n = 3118) $ Mil.
Revenue from Own Sources	2,771	65,548
Taxes[a/]	(1,509)	(49,739)
Charges and Misc.[b/]	(1,262)	(15,809)
Water supply revenue[c/]	221	3,172
Total	2,992	68,720
VETE[d/]		
Alternative 1	93.8	
Alternative 2	(187.5)	
Alternative 3	217.5	
Total	3179.5	

SOURCE: [8, 18]

a/, b/, c/ -- See Table 2 for footnotes

d/ Three alternative dollar values (Voluntary Effort Tax Equivalents) based upon specific levels of professional equivalency and replacement cost were estimated. Alternative 1 assumes four and Alternative 2 assumes two active volunteers equal to one paid fireman. Alternative 3 is based on replacement value of the volunteer effort (8, p. 3).

Despite the limitations of the tax measure in Tables 2 and 3, adding charges and miscellaneous and water supply revenue to the measure of local taxes increases the measure of taxes by 98.3 percent for Cumberland County, Tennessee and by an average of 38.2 percent for all U.S. county area local

governments. If the mid estimate of voluntary firemen effort is added to the measure of taxes for Cumberland County, this measure increases by 12.4 percent. A significant gap between actual and potential Federal revenue for Cumberland County results from the omission of user charges and volunteer effort from the measure of tax effort.

One must keep in mind that with no increase in the total Federal revenue sharing allocation, one government can increase only at the expense of another. However, the foregoing evidence suggests that the omission of various user charges, schools, special districts and volunteer effort from the measure of adjusted taxes for Federal revenue sharing allocations penalizes nonmetropolitan local governments relative to metropolitan governments. If these forms of effort were included, it would appear that nonmetropolitan governments would make substantial relative gains in Federal revenue sharing allocations.

Virtually no systematic data series exist to evaluate the magnitude and tax equivalent significance of donations to and various fund raising activities for community services such as fire protection, emergency ambulance, medical clinics, and hospitals. The same is true for the commercially provided, user charge financed services such as solid waste collection and disposal, and privately provided water supply and sewage treatment systems. Future efforts to quantify and incorporate these forms of "tax equivalents" would be expected to further favor rural and/or nonmetropolitan local governments relative to Federal revenue sharing allocations.

Summary and Conclusions

Some forms of tax revenue and all forms of non-tax revenue and support are omitted from measures of fiscal or tax effort for Federal revenue sharing allocations. Omitted tax revenues include those generated to finance schools and all other types of special districts. Non-tax revenues that are excluded include all forms of user charges and special assessments as well as donations and various fund raising activities for community services such as fire protection and emergency ambulance service. Other forms of support omitted from measures of fiscal or tax effort include all forms of volunteer effort and those services such as water supply, sewerage treatment and solid waste collection and disposal generally privately provided or contracted for in rural communities.

These omissions appear to introduce a systematic bias against rural and/or nonmetropolitan local governments regarding Federal revenue sharing allocations. This conclusion is supported by preliminary evidence that rural and/or nonmetropolitan communities (1) raise proportionately more of their total taxes for schools and special districts, and (2) disproportionately substitute user charges for general revenue financing. Although further analysis is needed, it appears reasonable to assume that rural and/or nonmetropolitan communities (1) support a higher proportion of their local government or community services with donations and various fund raising activities, (2) have a higher level of substitution of volunteer for paid effort, and (3) provide a larger proportion of various "community services" privately vs. publically [7].

Further analysis, particularly regarding the "tax equivalent" significance of privately provided "community services", donations, fund raising

activities, and volunteer effort is needed to strengthen the foregoing conclusion on Federal revenue sharing bias. However, serious data limitations greatly restrict this type of work on an aggregate basis. Additional case study analysis could be useful if interpreted carefully.

In lieu of additional analysis, some tentative recommendations seem possible assuming tax effort continues as a dominant factor in the Federal revenue sharing allocation formulas. First, the rationale seems clear and the existing secondary data base adequate for including all local government user charges as well as all tax revenues for schools and special districts as part of the measure of tax effort by local governments for Federal revenue sharing. Boundary overlap could be handled by allocating the school and special district revenues on the basis of the proportion of district population residing within the respective county or municipal local governments.

Any adjustments for donations, fund raising activities and volunteer effort would be more complicated, but not impossible. For example, the previous work which developed alternative techniques for estimating the "tax equivalent" value for volunteer firemen effort could be expanded [6, 8].

In sum, some adjustments in the current narrow and biased measure of tax effort seem necessary if Federal revenue sharing is to be allocated in a reasonably equitable manner in the future. An alternative is to drop tax effort as an allocation criterion.

FOOTNOTES

1/ Helpful comments were received from Professors Frederick Stocker and Leroy Hushak, The Ohio State University.

2/ Weintraub defines the four possibilities as follows [21]:

1. Grants-in-aid for single purpose specific projects and programs.
2. Grants-in-aid earmarked for a broad purpose such as education, i.e., "functional-block" grants.
3. Grants-in-aid for multi-function or multi-project programs.
4. Unassigned grants-in-aid (e.g., Federal revenue sharing) given with no strings attached and generally called "block grants".

3/ Fiscal capacity measures are concerned with the ability of governments to obtain resources for public purposes, i.e., their potential for generating public revenues. Measures of fiscal effort try to gauge how much of this capacity they are actually using, i.e., how far are they reaching [14, p. 4].

4/ Rural communities or local governments are those with less than 2,500 population. Some rural local governments are located within counties that are part of a Standard Metropolitan Statistical Area (SMSA). Non-metropolitan local governments are those within counties that are not part of an SMSA.

5/ Conclusions ranged from the statement that "total domestic Federal outlays were allocated between rural and urban areas approximately in proportion to the population of those areas during fiscal years 1970,

FOOTNOTES (continued)

1971 and 1972" [13, p. 2], to the statement that "rural Americans do not share proportionately in programs funded by the Federal government" [17, p. v]. This author has more confidence in the latter conclusion.

6/ The comparisons generally showed user charges to be a higher proportion of own revenues and voluntarism to be a more common phenomenon in rural or nonmetropolitan vs. urban or metropolitan communities. Evidence on donations and fund raising activities was less conclusive.

7/ The 145 percent ceiling is significant for a few large cities such as St. Louis, Philadelphia, Richmond and Hartford [11]. Ohio data for Entitlement Periods 1 and 2 show that 24 villages, 5 townships and 6 cities were affected by the 145 percent maximum. For the same 12 month period, 765 townships, 263 villages and 20 cities were affected by one of the two minimums. Non-money income is probably relatively more important in rural and/or nonmetropolitan areas but may not be very significant relative to formula bias. For example, non-money income was about 3.5 percent of total U.S. personal income of farm population from all sources in 1975 [4].

8/ This argument is usually based on the notion that communities are penalized for keeping taxes low even if they elect to provide comparable services privately or support services with user charges, donations and/or volunteer effort instead of taxes.

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